A PHILOSOPHICAL DISCOURSE,

ADDRESSED TO THE

AMERICAN ACADEMY,

OF

ARTS AND SCIENCES,

IN THE PRESENCE OF A RESPECTABLE AUDIENCE,

ASSEMBLED AT THE

MEETING-HOUSE

IN

BRATTLE-STREET, IN *BOSTON*,

ON THE EIGHTH OF NOVEMBER M,DCC,LXXX,

AFTER THE INAUGURATION OF THE

PRESIDENT

INTO OFFICE.

By James Bowdoin, Esq;

PRESIDENT OF THE SAID ACADEMY.

" The Book of Nature open,———
——— — explore the wond'rous work.
— — — — An Institute
Of laws eternal, whose unalter'd page
No time can change, no Copier can corrupt."

BOSTON:

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M,DCC,LXXX.

At a Meeting of the AMERICAN ACADEMY *of* ARTS *and* SCIENCES, *November* 8, 1780.

VOTED, That the thanks of the Academy be presented to the Honorable JAMES BOWDOIN, Esq; the President, for his learned and elegant Oration, delivered to the Academy this day; and for his generous exertions for the encouragement and promotion of the important ends of its institution; And that he be desired to favor the Academy with a copy of the Oration, to be deposited with the Recording Secretary, in order for its publication.

Copy examined,

CALEB GANNETT, Secretary.

GENTLEMEN OF THE ACADEMY,

IT is in consequence of your vote, that the following Discourse is made public.

I wish it deserved the approbation you have been pleased to bestow upon it: which my idea of it obliges me to consider as resulting from your benevolent disposition, rather than from the merit of the performance.

That approbation is a clear proof of the candour, which influences your judgment: to the decision of which the Discourse is now, in a more public way, very respectfully submitted by,

Gentlemen,

Your most obedient, and very

humble servant,

JAMES BOWDOIN.

A Philoſophical Diſcourſe, addreſſed to the American Academy of Arts and Sciences.

GENTLEMEN *of the* AMERICAN ACADEMY *of* ARTS *and* SCIENCES!

WHEN I conſider, that among the members of the academy there are gentlemen of abilities ſuperior to my own, eſpecially in the walks of philoſophy, I feel a conſciouſneſs, that its honours might in one inſtance have been better placed. But if a defect of abilities could be compenſated by a good will to ſerve its intereſt, and promote the end of its inſtitution, I ſhould have the ſatisfaction to think myſelf not wholly unqualified for the ſtation, with which your ſuffrages have honoured me.

IT is in diſcharge of the duties of it, that I appear in this place: and in the diſcharge of them, both at preſent, and on future occaſions, as

as I greatly need it, ſo I doubt not I ſhall always experience your candour:—the candour, which ever accompanies generous minds, and is the reſult of the due exerciſe of the ſocial affections.

THE ſocial affections in man are the principal ſource of his happineſs; and the operation of them, as directed by his wants, and other circumſtances, forms his connections in ſociety. Their firſt objects, in the order of nature, are our relations and near friends; next to theſe our neighbours and countrymen ſucceed; then the people of other countries, in political connection with us; and in the laſt place, mankind in general. In proportion, however as theſe objects are more remote, thoſe affections are the leſs powerful. After operating on their firſt objects in our family-connections, and carrying us to the vicinity, they are drawn forth, more particularly to ſuch individuals as diſcover a likeneſs to ourſelves in genius and diſpoſition; and appear to have intereſts co-incident with our own. The acquaintance thus begun ſtrengthens and improves by time; and the pleaſure and mutual benefits, reſulting from it, prompt us to continue and enlarge it. Theſe ſocial circles increaſe with population, and at length occaſion the eſtabliſhment of ſocieties, more effectually to ſecure thoſe benefits, and render them permanent. But the ſocial principle is of a nature ſo active and comprehenſive, that it leads mankind to aſſociate in larger bodies; and

to

to eſtabliſh great communities, in which the ſtrength and abilities of individuals being united and conſolidated, each individual perſonally, as well as the community at large, may enjoy the ſecurity & advantages reſulting from that union.

HENCE have originated government, and the various political connections, ſubſervient and neceſſary to it. Hence, amidſt a variety of others of different kinds, have ſprung the numerous inſtitutions for promoting philoſophical knowledge, and inveſtigating the works of nature: among which, ſome in EUROPE, and in particular, the royal academy of ſciences at PARIS, and the royal ſociety of LONDON, bear a diſtinguiſhed character.

HENCE too, the ſocieties of a ſimilar nature, which begin to adorn AMERICA; particularly the philoſophical ſociety at PHILADELPHIA, whoſe firſt eſſays, ſo ingeniouſly executed, are received by us as a pledge for ſtill nobler productions. It is hoped they will excite in this new-formed ſociety, a generous ardour and emulation in the ſame laudable purſuits; and that, as optic glaſſes, by collecting the ſolar rays, do aſſiſt and ſtrengthen the corporeal ſight, ſo the two ſocieties, by concentering in a proper focus the ſcattered rays of ſcience, may aid and invigorate the intellectual: benefitting by their productions, not only the communities in which they are reſpectively inſtituted, but AMERICA and the WORLD in general: both together reſembling ſome copious river, whoſe branches, after refreſhing

refreſhing the neighbouring region, unite their waters for the fertilizing a more extenſive country.

THE end and deſign of inſtituting this ſociety are fully declared in the act of the legiſlature for its incorporation : * namely, "to promote and encourage the knowledge of the antiquities of America, and of the natural hiſtory of the country ; and to determine the uſes, to which its various natural productions may be applied : to promote and encourage medical diſcoveries ; mathematical diſquiſitions ; philoſophical enquiries and experiments ; aſtronomical, meteorological, and geographical obſervations ; and improvements in agriculture, arts, manufactures and commerce : and, in fine, to cultivate every art and ſcience, which may tend to advance the intereſt, honour, dignity and happineſs of a free, independent, and virtuous people."

HERE

* A part of that deſign may be expreſſed in the deſcriptive language of the great Roman poet.

—— cælique vias et ſidera monſtrent,
Defectus ſolis varios, lunæque labores :
Unde tremor terris : quâ vi maria alta tumeſcant,
Obicibus ruptis, rurſuſque in ſe ipſa reſidant :
Quid tantum oceano properent ſe tingere ſoles
Hyberni : vel quæ tardis mora noctibus obſtet.—
Scire poteſtates herbarum uſumque medendi :—
Morborum quoque—cauſas et ſigna.——
Nunc locus arvorum ingeniis : quæ robora cuique,
Quis color, et quæ ſit rebus natura ferendis.—
Quid faciat lætas ſegetes :—&c.

—— OMNIPOTENS ! —— annue cœptis.

VIRGIL: Georgic : et Æneid ;

HERE is opened a wide and extenſive field, which the ſons of literature are invited to cultivate and improve: a field, richly watered by the fountain of ſcience, and ſo varied in its ſoils as to be adapted to every mode of cultivation. Here they will find abundant matter for the employment of their induſtry; and the moſt ample room for the exerciſe of their genius, in its utmoſt power of expanſion.

AT that fountain they may recreate themſelves, and drink of its delicious waters without the danger of intoxication: or in caſe of danger, contrary to the effect of ſome other waters, it diminiſhes in proportion to the largeneſs of the draught: as intimated in the elegant lines of a well-known poet.

" A little learning is a dangerous thing:
Drink deep, or taſte not the pierian ſpring.
There ſhallow draughts intoxicate the brain;
And drinking largely ſobers us again." *

WE ſhall now take a curſory view of ſome of the ſubjects, which are to employ the enquiries and reſearches of this ſociety; and which we ſhall notice in the order obſerved in the act for incorporating it: making, in our progreſs, a few obſervations, that naturally reſult from them.

* Pope's eſſay on criticiſm.

THE antiquities of AMERICA † are the firſt mentioned. A knowledge in the antiquities of a country neceſſarily implies a knowledge of its antient hiſtory; and the reſearches into them lead directly to the ſource and original of things.

IT is very pleaſing and inſtructive—to recur back to the early ages of mankind, and trace the progreſſive ſtate of nations and empires, from infancy to maturity, to old age, and diſſolution: to obſerve their origin, their growth and improvements, their different governments and laws, their variant cuſtoms and religion:—to obſerve the progreſs of the arts among them, which at firſt were few and rude, ſuggeſted by their wants and neceſſities, but gradually increaſing in number and perfection, in proportion to the enlargement of the community, and as the culture of them was encouraged:—to obſerve the riſe and gradual advancement of civilization, of ſcience, of wealth, elegance, and politeneſs, until they had obtained the ſummit of their greatneſs:—to obſerve at this period the principle of mortality, produced by affluence and luxury,

† Salve, magna parens frugum, Veſputia tellus,
Magna virûm: tibi res antiquæ laudis et artis
Ingrediar, ſanctos auſus recludere fontes.
Virg: Georg: 2.

The American academy is here perſonated; and the res antiquæ laudis, &c—are to be conſidered as ſubjects of their future enquiry.

The compliment paid to our country by ſubſtituting Veſputia for Saturnia, it is hoped, will be as juſtly applicable to it as Virgil's was to Italy.

ury, beginning to operate in them: manifeſting itſelf in a variety of ways, and with greater or leſs vigour at different times; and finally terminating in diſſolution, brought upon them by corruption, profligacy of manners, and vice of every ſpecies, the uſual attendants in the train of luxury. In fine—to obſerve, after this cataſtrophè, a new face of things; new kingdoms and empires riſing upon the ruins of the old, all to undergo like changes, and to ſuffer a ſimilar diſſolution.

Of theſe events ancient hiſtory exhibits the moſt convincing and inſtructive evidence: particularly the hiſtory of the four great empires, the ASSYRIAN, the PERSIAN, the MACEDONIAN, and the ROMAN: which, like their founders, have long ago ſuffered the fate incident to every thing human.

THE knowledge of theſe events is ſo intimately connected with the knowledge of antiquities, that it is derived from the ſame ſource. Such too is the connection between antient hiſtory and antiquities, and ſuch the mutual aſſiſtance afforded to each other, that as, on the one hand, ancient hiſtory illuſtrates and explains antiquities, ſo, on the other, antiquities ſerve to verify and authenticate antient hiſtory, or to correct its errors: and they ſometimes give us a knowledge, or intimation of things not recorded in hiſtory. Antiquities are alſo incidentally beneficial

neficial, by means of the political, and other uſeful knowledge, reſulting from the diſquiſitions neceſſary to explain them.

WITH reſpect to AMERICA,—there may be many things of European extraction, that come under the name and deſcription of antiquities. So far as they relate to general laws, cuſtoms and religion, they are, for the moſt part, homogeneous with what took place in the ſame age, and in the countries, from which the firſt European coloniſts emigrated; and it is probable they may be learnt, or explained, by the general or antiquarian hiſtory of thoſe countries. Theſe things, together with what was peculiar to thoſe emigrants, and worthy of notice, if not already recorded in *American* hiſtory, will, with other remains of antient times, be proper ſubjects of our enquiry.

WHATEVER relates to the aboriginal natives of AMERICA, not already noticed in hiſtory, may be comprized in a very narrow compaſs. Their want of civilization, and improvement, and in particular their total want of literature, by which the ſmall degree of knowledge they acquired by experience, might have been tranſmitted to ſucceeding generations, will juſtify the opinion, that the preſent race of them, in manners and conduct, differ very little from their anceſtors, who lived centuries ago: excepting in ſome few particulars, occaſioned by their intercourſe with foreigners. It may naturally be conjectured

conjectured therefore, that the ancient and modern hiſtory of theſe people, with the exception of what might regard their wars, would appear but little more than a tranſcript of each other; and that it would be in vain to ſearch among them for antiquities.

It is not improbable however, there may be many ancient hiſtorical records, and other valuable remains of antiquity, both American and European, in the poſſeſſion of deſcendants from families, which firſt ſettled AMERICA; and of other perſons upon this continent. It were to be wiſhed, that gentlemen poſſeſſed, or knowing, of ſuch remains, or of any kind of collections likely to contain ſuch, would cauſe them to be examined; and if they tend to elucidate, enlarge, or correct hiſtory; or in any other way can be beneficial to the public, that they would have the goodneſs to communicate to this ſociety ſome account of them: which, at the ſame time it will characterize them benefactors to the public, will entitle them to the thanks of the ſociety.

The ſubject next mentioned in the act is natural hiſtory. The ſociety are to encourage the knowledge of the natural hiſtory of the country, and to determine the uſes, to which its various natural productions may be applied.

Natural hiſtory is a copious ſubject, or rather it includes a very great variety of ſubjects. The ſeveral claſſes of animals, vegetables, minerals

nerals and foſſils—in ſhort, every thing produced by nature, whether in the earth, the ſea, or air, incluſive of theſe, are within its department.

THE knowledge of it is ſo neceſſary to the good of mankind, that it has been cultivated in its ſeveral branches, perhaps more than any other part of ſcience; and in proportion to that cultivation, the properties and qualities of things, and their fitneſs for certain uſes, have been diſcovered. This diſcovery has occaſioned the application of them to thoſe uſes; and thoſe have led to others, according as the wants, or the inventive faculties of man have directed him. Hence have been derived the conveniences and ornaments of life, and every improvement in the arts of living.

AT firſt however, at the origination of man, when it was indiſpenſably neceſſary he ſhould be ſupplied with the means of ſubſiſtence, before he had acquired ſufficient knowledge and ability to provide for himſelf, his beneficent CREATOR, the firſt and the ſupremely great naturaliſt, made known to him the nature and qualities of things, and the uſes to which they might be applied, ſo far as man's well-being required; and having provided for that, and endowed him with ſufficient faculties, he was pleaſed to leave him and his poſterity to the exerciſe of thoſe faculties, for the gaining a further degree in natural knowledge: in proportion to which, and to their improving it to the purpoſes for

which

which it was adapted, he intended their future accommodations ſhould be. Accordingly, in different nations, from a greater or leſs exertion of equal faculties, or from a happier application of them, we find a greater or leſs degree of natural knowledge and improvement, and a proportionable difference in their reſpective conveniences and accommodations. Hence, with regard to theſe latter, the difference between EUROPE and AFRICA; between the moſt improved and beſt accommodated of mankind, and the Hottentots. But if their natural faculties are unequal, collectively taken, as probably is the caſe, the reaſon of that difference will ſtrike us the more forcibly.

ON the ſuppoſition of ſuch inequality, it may in a great meaſure be accounted for by the operation of natural cauſes: for although before the diſperſion of mankind over the earth, which their increaſed numbers made neceſſary, the human faculties, by reaſon of a ſameneſs in ſituation and other circumſtances, might in general be equal, yet in proceſs of time an inequality would probably take place from a change of climate.

DIFFERENT climates differ greatly in their degrees of heat and cold, as well as in their natural productions. The tendency of immoderate heat is to relax, unbrace, and debilitate the human frame, and thereby diminiſh the powers of the mind as well as body, and indiſpoſe them

to

to exerciſe and application: which indiſpoſition, ſtrengthened by the force of habit, at length becomes inſurmountable.—On the other hand, immoderate cold too much contracts, and gives too great a degree of rigidity to, the fibres, and nervous ſyſtem; and thereby making them leſs ſuſceptible of quick and lively ſenſations, muſt proportionably affect the mind. Hence in both caſes an inferiority of intellects. But in climates, duely tempered with heat and cold, where the organs of ſenſe and motion are in due tone, it may be expected, if this theory be true, that mankind will be capable of greater exertions both of mind and body. *

It will not from hence follow, that the exertions of different nations, dwelling in the ſame latitudes and climates, ſhould be equal: for

* The Baron de Monteſquieu, in his spirit of laws, § where he treats, Of the difference of men in different climates, although he conſiders the effect of climate, more as it relates to the paſſions, than to the underſtanding, ſuppoſes not only that the difference is owing to different degrees of heat and cold; but that in proportion to them the body and mind are leſs or more vigorous.

If this be the caſe, what is ſaid above reſpecting the effect of climates is not wholly juſt: for there it is ſuppoſed, that immoderate cold, as well as heat, diminiſhes the vigour of both.

The latter ſuppoſition may in ſome meaſure be ſupported by the hiſtory of the people living in the northern parts of Norway, Sweden, Ruſsia, Lapland, and Siberia, whoſe characters, both as to mind and body, do not give us any exalted idea of the vigour or ability of either.

§ Book xiv, chap. 2. Nugent's tranſlation, the 2d. edit.

for on the ſuppoſition of equality of capacity, there may be a variety of things, on which their exerting it may depend: ſuch as education, religion, government and other circumſtances, or the appearance of ſome happy genius to inſtruct and direct them: and as theſe ſhould happen to differ and influence them, their exertions would be proportionably different.

By way of illuſtration, we may inſtance in what has taken place among ourſelves; and aſk, whether the people of theſe united States, whoſe natural capacity, without doubt, equals that of Europeans in the ſame temperate climates, would in certain different circumſtances, have oppoſed the unreaſonable claims of BRITAIN upon them? Would they, if at all, have exerted themſelves ſo vigorouſly againſt her inſlaving domination, if they had not been educated in the principles of liberty; if their religion, like that of ſome ſectaries among them, had not allowed them to make uſe of carnal weapons in the defence of their liberty; or if they had lived under a deſpotic government, and believed in the doctrine of paſſive obedience and non-reſiſtence? Or, laſtly, if ſome among them, well ſituated to obſerve the courſe and tendency of Britiſh policy, had not alarmed them of their danger?

If all or any of theſe circumſtances had been different from, or contrary to, what have in fact taken place, the advantages derived from climate, in reference to natural capacity, had

probably been loſt; and the world had not been aſtoniſhed at the noble and unexpected exertions we ſo happily made againſt the power of BRITAIN: a power, diſtinguiſhed for its magnitude, and with which we had to contend under the preſſure of the greateſt difficulties, and diſcouragements: but which, very fortunately, was not directed by the moſt conſummate wiſdom.

ONE ardent wiſh will be indulged to me on this occaſion, that we may ever deſerve to be poſſeſſed of freedom and independence; and by deſerving them, convince our enemies, that the SUPREME ARBITER of the fate of nations will not ſuffer BRITAIN to wreſt them from us. The firſt of them—freedom—in a conſtitutional ſenſe, while we remained connected with BRITAIN, and until ſhe ſpurned our repeated prayers to her for its reſtoration, was the only object of our exertions: and the latter—independence—wholly alien at that time from our inclinations, but now radicated in them, was the neceſſary effect of her obſtinate injuſtice.*

WITH reſpect to the Indian tribes of AMERICA, and the Blacks of AFRICA, if they deſcended from the ſame original ſtock, and are alike affected with the reſt of mankind, they will partake of the advantages and diſadvantages of climate in common with them: unleſs it be ſuppoſed, that the unexplored cauſe of the difference

* The following (tranſpoſed) obſervations of Horace on the civil wars of Rome, may juſtly be applied to Great-Britain,

ference of colour may, in any meaſure, alter the effects of climate. If it doth not alter them, and if all nations in the ſame lattitudes, conſidered in the groſs, have equal capacities, the difference, that on compariſon appears between them, muſt be caſual; ariſing from certain adventitious circumſtances, which take place in ſome of them, and not in others; and which, as they ariſe, call thoſe capacities into action, and thereby occaſion the difference.

If by public encouragement, or by any other means, knowledge in general, and particularly natural knowledge, be ſuppoſed equal in any two or more nations, their different modes of applying it will produce very different effects; which, taken together in each, may be equally valuable and uſeful: and if thoſe effects come under the name of manufactures, they may be exchanged for each other to mutual benefit, even where the natural materials are the ſame in kind and quality: but where the materials dif-

Britain, in regard to the unnatural war ſhe commenced againſt her Colonies, now happily emancipated from her domination.

Quò, quò ſceleſti, ruitis,—(Romani)?
— ut ſecundum vota Parthorum, ſuâ
Urbs hæc periret dexterâ?
— jam teritur bellis civilibus ætas:
Suis et ipſa Roma viribus ruit.
—— —— agunt
Sceluſque fraternæ neçis.
Neque hic lupis mos, nec fuit leonibus
Unquam, niſi in diſpar, feris.

Epod: 7 & 16.

fer in theſe reſpects, the greater muſt be the difference in thoſe artificial productions, and the greater the benefit ariſing from the exchange.

THE various productions, natural and artificial, of different countries, and the benefit reſulting from a mutual exchange of them, give riſe to commerce, navigation and their attendants: in regard of which, the balance of advantage will always be in favour of that people, whoſe ſkill, induſtry, and cheapneſs of labour, enable them to manufacture, and export, the greateſt quantity of commodities: whether manufactured from the rough products of their own, or of other countries. And that balance, if the government of ſuch a people be wiſely adminiſtred, will give them a national ſuperiority in riches, influence, and proſperity: which are principal objects with the honeſt and well-informed politician.

THE foregoing general obſervations, and particularly thoſe concerning man, and the effects of climate, with the exception of ſome few of them incidentally made, come under the head, and are included in the idea, of natural hiſtory.

WHAT has been ſaid of the influence of climate, agrees in part with the doctrine of the celebrated MONTESQUIEU.* So far as it differs from him, it may need apology: but it is ſubmitted to your candour, juſt as it ſtood written before I had conſulted him on that ſubject.

THE

* See a foregoing marginal note.

THE natural productions of this country are perhaps as numerous as those of any other: but it doth not appear by any publications on the subject, that they have been examined to any great extent: so that our natural history is very imperfect, not only in relation to such productions as we have in common with other countries, but such as are peculiar to our own. It is apprehended however, that gentlemen of ingenuity and observation, have noticed and described many of them: and that their several descriptions and collections, brought into one stock, properly methodized and classed, would make a respectable figure; and encourage further examinations and researches, in order to our obtaining an extensive, and well-digested body of American natural history. For a purpose so beneficial in itself, and so honorary to our country, it is hoped, such gentlemen will favour the academy with their descriptions, and collections; and also with the result of their future researches, relative to the same subject.

To these cursory observations on the subject of antiquities and natural history, I must here put an end, as I shall stand in need of the remains of your patience and candour, while I make a few observations of a different kind: which, though not necessarily connected with the subjects, that fall under the consideration of the academy, will not be deemed impertinent, or unsuitable to this occasion.

THE

THE inſtituting of this ſociety, and the neceſſity there was, that it ſhould be preceded by ſuch an inſtitution as HARVARD's, naturally carry us back to the early times of this country, when HARVARD COLLEGE was firſt founded. *

OUR worthy anceſtors, knowing from their own experience the advantages of a good education, very early, after their coming hither, provided the means of it for their children, and poſterity; and that excellent man Mr. HARVARD made a large and generous bequeſt for that purpoſe: in conſequence of which, the college was founded; and in honour of him, and to perpetuate the remembrace of his generoſity, his name was given to it. From that time to the preſent, it has been productive of the happieſt effects; and the influence and benefit of its inſtruction have been widely felt. Learning and the principles of good morals have been diſſeminated; the arts and ſciences cultivated; and a ſpirit of freedom and enquiry promoted, and encouraged: in virtue of which, the beſt foundations have been laid for excellency in the learned profeſſions.

ALL theſe have operated in ſo forcible and extenſive a manner, that they have produced the other ſeminaries in AMERICA, eſtabliſhed for the like noble purpoſes: ſo that our ALMA MATER may be juſtly conſidered as the remote parent of them all. I ſay *our* ALMA MATER, not

* Harvard College was founded in the year 1638; and the date of its firſt Charter was in 1642.

not merely in relation to the members of this ſociety, individually conſidered, moſt of whom from her breaſts drew the nectareous milk of ſcience, but in relation alſo to the complex body, the ſociety itſelf: for, by her diſcipline, and unremitted inculcations, the way has been prepared for philoſophical diſquiſitions, and an examen into the works of nature: without which, or ſome ſuch preparative diſcipline, this ſociety could not have been formed: or being formed, could not have anſwered the end of its inſtitution.

At the ſame time we are acknowledging our obligations to our ALMA MATER, juſtice demands the tribute of gratitude to her benefactors.

Foremoſt among theſe, ſtands the reverend Harvard; reverend by his profeſſion, but much more ſo by real worth, and true dignity of character. By his generous bequeſt, and the ſpirit it inſpired, the government was enabled to eſtabliſh the college: which by reaſon of the low ſtate of the finances of the country, could not have been done without ſuch aſſiſtance: ſo that he may juſtly be conſidered as the father and founder of the UNIVERSITY; and in that character his memory may be tranſmitted to poſterity.

In the ſame catalogue alſo, the names of Stoughton, Hollis, Holden, Hancock, Boylston and Hearsey, whoſe vital part is diſencumbered of its earthborn cottage, hold a diſtinguiſhed place. Their noble and public-ſpirited

ſpirited benefactions, with thoſe of other friends and encouragers of ſcience, are at large recorded in the archives of the univerſity; and therefore need not here be ſpecifically enumerated.

Ye diſembodied ſpirits, now "joined to the great majority," if ye are conſcious of what is tranſacting in this place, and will deign to regard it, permit us to expreſs our gratitude to you, ariſing from a ſenſe of the benefits already derived, and which are deriving, to individuals and the public, from your inſtitutions and benefactions.

If divinity and morality—if the knowledge of the Hebrew ſcriptures, and of the oriental and other languages—if mathematics, and natural, and experimental philoſophy—if the medical art, the belles lettres, and literature in general—are beneficial to mankind, ye have not lived in vain: ſince, to promote the knowledge of theſe has been the object of your aim in thoſe inſtitutions; and your aim has been crowned with the moſt happy and extenſive ſucceſs. This has inſured to you, at leaſt in this country, univerſal approbation; and your names will be remembered with honour, ſo long as literature ſhall be eſteemed, or any veſtige of it remain here.

Though wrapt in the ſhroud of death be your mortal part, ye ſtill live, and through ſucceſſive generations may ye continue to live, in the grateful breaſts of your lettered ſons.—

Conſecrated

Conſecrated to fame, and born on its ſtrongeſt pinions, may your memory reach to the remoteſt ages, expanding as it flies. And when ages ceaſe to roll—when all things ſhall be ingulphed in vaſt eternity—when eternity itſelf ſhall be abſorpt in the ſelf-exiſtence of the DEITY, may ye be bleſſed; as we humbly truſt ye now are, ſupremely bleſſed, with the approbation of HIM, who gave you the means, and the will to do good. In fine, may your virtues, and excellent example, by inſpiring imitation, procure ſuch benefactions to HARVARD COLLEGE, as to make it, in the moſt proper and extenſive ſenſe, an UNIVERSITY.

WITH reſpect to its ſurviving benefactors, I ſhall not attempt to name or characterize them; as the doing it might offend their delicacy, or ſavour of adulation: they will however have the pleaſing ſatisfaction to reflect, that the eulogium on the ſimilar virtues of others, is an eulogium on their own: and a conſciouſneſs of merit will compel them, without hazarding the charge of a vain-glorious appropriation, to apply it to themſelves.

To have ſaid thus much on the ſubject of the college, will not, on this occaſion, be deemed impertinent, as the inſtituting of it was, not meerly conſiſtent with the forming ſuch a ſociety as ours, but neceſſary to precede it; and as the old inſtitution may with propriety be reputed the genuine parent of the new one. Such is the connection between them, and ſuch the

dependance of this upon the other, that as moſt of its preſent members are ſons of HARVARD, ſo its future vernacular members will probably, for the moſt part, be ſupplied from the ſame ſtock: at leaſt ſo long as HARVARD's ſons ſhall continue to be diſtinguiſhed for ſcientific accompliſhments: which, it is fervently hoped, will be as long as ſcience, or any trait of it, remains in the world: or as long as nature, the great ſubject of it, endures.

DERIVED from ſuch a parentage, and animated by the noble example of other philoſophical inſtitutions, may this ſociety contribute its full ſhare to the common ſtock of knowledge; and endeavour, by the moſt generous exertions, to anſwer the valuable purpoſes of its inſtitution.

"RAPT into future times," and anticipating the hiſtory of our country, methinks I read in the admired pages of ſome AMERICAN LIVY, or THUCYDIDES, to the following effect.

A CENTURY is now elapſed ſince the commencement of American independency. What led to it, and the remarkable events of the war, which preceded and followed it, have been already related in the courſe of this hiſtory.

IT was not to be expected, that our anceſtors, involved as they were in a civil war, made peculiarly

peculiarly calamitous by * *Britiſh humanity*, could give any attention to literature and the ſciences: but ſuperior to their diſtreſſes, and animated by the generous principles, which liberty and independency inſpire, they inſtituted the excellent ſociety, called THE AMERICAN ACADEMY OF ARTS AND SCIENCES.

THIS ſociety formed itſelf on the plan of the philoſophical ſocieties in EUROPE, adopting

 ſuch

* *Britiſh humanity* is become as proverbial in America as the Punica fides was in ancient Rome. The following lines convey but a faint idea of it, notwithſtanding they are in themſelves energetic and ſufficiently deſcriptive of barbariſm to diſgrace human nature.

Quod genus hoc hominum? quæve hunc tam barbara mo-
Permittit patria? hoſpicio prohibemur arenæ: (rem
Bella cient, (noſtrâque) vetant conſiſtere terrâ.

—— , —— æſtique furore,
Conclamant rapiuntque—ignem: ——— facesque
Conjiciunt: fugit amiſſi. Vulcanus habenis.

Plurima perque vias ſternuntur inertia paſſim
Corpora, perque domos, et religioſa deorum
Limina. —— ——

—— —— —— crudelis ubique
Luctus, —— et plurima mortis imago.

Æneid:

This clauſe—hoſpicio prohibemur arenæ—is explained by the act of the Britiſh Parliament for ſhutting up the port of Boſton: and a faithful hiſtory of the preſent war, in the chapter of conflagrations and murders, will explain the ſubſequent clauſes.

ſuch rules, and principles of conduct, as were beſt ſuited to anſwer the end of its inſtitution. Among others, they laid it down as a fundamental principle, that as true phyſics muſt be founded on experiments, ſo all their enquiries ſhould, as far as poſſible, be carried on, and directed by them. This method was ſtrongly recommended by Sir FRANCIS BACON, "a genius born to embrace the whole compaſs of ſcience, and juſtly ſtiled, the firſt great reformer of philoſophy."* It was adopted by ſucceeding philoſophers, and particularly by the immortal NEWTON, whoſe ſyſtem of philoſophy, founded on the laws of nature, will for that reaſon be as durable as nature itſelf.

TAKING theſe great characters for their guide, and influenced by their illuſtrious example, they proceeded on fact and obſervation, and did not admit of any reaſonings or deductions, but ſuch as clearly reſulted from them. This has been the uniform practice of the ſociety; whoſe members, from time to time, having been choſen from men of every country, from every claſs and profeſſion, without any other diſtinction than was dictated by the dignity of their characters, by their morality, good ſenſe, and profeſſional abilities, we find in the printed tranſactions of the ſociety, the beſt compoſitions on every ſubject, within the line of their department. We find in thoſe tranſactions new facts, new obſervations and diſcoveries; or old ones placed

* MALLET's life of Lord Chancellor BACON.

placed in a new light, and new deductions made from them.

THEY have particularly attended to ſuch ſubjects as reſpected the growth, population and improvement of their country: in which they have ſo happily ſucceeded, that we now ſee agriculture, manufactures, navigation and commerce, in a high degree of cultivation; and all of them making ſwift advances in improvement, as population increaſes. In ſhort, they have, agreeably to the declared end of their inſtitution, "cultivated every art and ſcience, which might tend to advance the intereſt and honour of their country, the dignity and happineſs of a free, independent, and virtuous people."

THIS is demonſtrably evident from the numerous volumes the ſociety have publiſhed of their tranſactions. Theſe volumes are a noble collection of uſeful knowledge; and conſidered together in their miſcellaneous ſtate, ſtrike the mind with a ſplendour, reſembling the galaxy in the heavens, derived from the combined light of countleſs myriads of conſtellations: and like that too, when the ſeveral correſponding parts are viewed in their proper connection, they appear to be parts of a whole; and to conſtitute the moſt uſeful ſyſtems: ſyſtems, diſtinguiſhed by their beauty, regularity, and proportion.—— Thus far our hiſtorian.

MAY this prophetic hiſtory be realized by fact, and may the tranſactions of this ſociety juſtify the future hiſtorian, in giving it a character,

racter, like the one juſt delineated : or rather, a character deſervedly more exalted.

In the mean time, as the ſociety is formed on the moſt liberal principles, and is of no ſect or party in philoſophy, it wide extends its arms to embrace the ſons of ſcience of every denomination, and whereſoever found ; and with the warmth of fraternal affection invites them to a philoſophical correſpondence : and they may be aſſured, their communications will be eſteemed a favour, and duely acknowledged by the ſociety.

I shall cloſe this diſcourſe with a ſhort reflection, reſulting from one of the ſubjects we have been conſidering.

When we contemplate the works of nature, animate and inanimate, connected with our earth ; obſerve the immenſe number and variety of them ; their exquiſite beauty and contrivance ; and the uſes to which they are adapted :—when we raiſe our view to the heavens, and behold the beauteous and aſtoniſhing ſcenes they preſent to us—unnumber'd worlds revolving in the immeaſurable expanſe ; ſyſtems beyond ſyſtems compoſing one boundleſs univerſe : and all of them, if we may argue from analogy, peopled with an endleſs variety of inhabitants :—When we contemplate theſe works of nature, which no human eloquence can adequately deſcribe, they force upon us the idea of A SUPREME MIND, the conſummately perfect author of them,—

" *That*

" *That* univerſal ſpirit, which informs,
" Pervades, and actuates the won'drous (whole" †

In compare with whom his works, great and ſtupendous as they are, are nothing, leſs than nothing, and vanity. But—though annihilated by the compariſon, yet—viewed in themſelves, they powerfully perſuade us to exclaim, in the rapturous and ſublime language of inſpiration, " Great and marvellous are thy works, LORD GOD almighty, in wiſdom haſt thou made them all."

† —— cœlum, ac terras,——
Spiritus intus alit : totamque infuſa per artus
Mens agitat molem, et magno ſe corpore miſcet.
Æneid : VI. 724.

The END of the DISCOURSE.

IN

IN the foregoing diſcourſe, under thehead of natural hiſtory, there was a paragraph, relative to the lapis ſpecularis, which was purpoſely omitted. But as it may communicate ſome information concerning the properties of that ſtone, which may induce people to ſearch for it, the ſubſtance of the paragraph is here given.

THERE has been lately diſcover'd, in the neighbouring ſtate of New-Hampſhire, a valuable quarry of the lapis ſpecularis, ſometimes called MuſcovyTalc, or Iſinglaſs. Some of the ſtones are compoſed of large, thin, ſmooth and parrallel plates, in cloſe contact with each other, but eaſily ſeperable: and when ſeparated flexile, elaſtic, and tranſparent. By reaſon of the thinneſs, tranſparency, ſize and toughneſs of the plates, it may be a good ſubſtitute for glaſs, and can be cut into any dimenſions ſuitable for windows.

I FIND this account given of the lapis ſpecularis in a late publication. "It is a foſſil well known for its many uſes, though the principal of theſe are not of the medicinal kind: it is one of the pureſt and ſimpleſt of the natural bodies, and more than almoſt any thing we know, reſiſts the force of menſtruums, and even of fire. It is

compoſed

compoſed of a multitude of extremely thin, pellucid, and beautiful plates, or flakes, of great extent, each uſually making the whole ſurface of the maſs. It is found in great abundance in MUSCOVY, and PERSIA, and in many mountains of GERMANY. There are ſome, who recommend it in powder for epilepſies: It is uſed in many of the arts and manufactures. The ancients made their windows of it inſtead of glaſs: at preſent our miniature-painters ſometimes uſe it for their pictures inſtead of glaſs. It is alſo often uſed inſtead of horn for lanterns; and the minute bodies intended for microſcopic obſervation are preſerved between plates of it."*

THIS particular deſcription of it is given, that its uſefulneſs might be known among us, at this time eſpecially, when glaſs, ſo much wanted, is not to be obtained without great coſt and difficulty; and that people, urged by their wants, might be induced to ſearch for it, and know when they had found it.

THERE are many indications of it in this State, but the places where they appear, have not been ſufficiently, if at all, examined. It is probable we have many quarries of it: but what has been hitherto found, has afforded only ſmall flakes not large enough, and too flexile, to be uſed inſtead of glaſs.

SINCE the writing of the paragraph abovementioned, a gentleman of the American Aca-

E demy

* See a new and complete Dictionary of the Arts and Sciences.

demy has favoured me with a letter relative to the New-Hampſhire-Talc : of which he writes thus,—

" THE newly diſcovered talc, is found at Windſor, about twenty miles S. W. from Dartmouth-College. By the beſt information I have been able to obtain, it lies in a quarry of great extent ; from which it is taken in pieces of any deſired magnitude. Its texture being ſoft, admits of its being eaſily cut perpendicularly ; and the lamina being horizontal, a ſeparation is eaſily effected, at almoſt any depth. When uſed as a ſubſtitute for glaſs, I am told, it is apt to flake :—not that a ſquare uſed in a window appears corroded by ſcales falling off, ſo much as divided by a ſeparation of the lamina, of which the ſquare conſiſts : ſo that, light in its paſſage muſt encounter the difficulties ariſing from multiplied ſurfaces.

HENCE it has been obſerved, that objects abroad are much better diſcerned by perſons in a room, with talc windows, than objects within are by perſons without ;—ſufficient quantities of light being tranſmitted ab extra, notwithſtanding the many and ſtrong reflections, to anſwer the purpoſes of viſion ; but are too much diminiſhed in their return."

I HAVE not been able to obtain ſo particular and authenticated accounts reſpecting it, as I wiſh. —— Thus far the letter.

If any gentleman can furniſh any further particulars concerning it, or the ſubject at large; or if he knows of any quarries of talc, that can be applied as a good ſubſtitute for glaſs; his communicating to the Academy the beſt account he can obtain of them, will intitle him not only to their thanks, but to the character of being at leaſt an intentional benefactor to the public.